

ABSTRACT

Method for manufacturing elements made from composite material using the co-bonding technique, in which uncured elements (preformed beams (2)) are bonded onto another cured element (the skin (3)) with multiple thickness changes, using a rigid tooling made of invar used for support and positioning during the curing process. Each element is made with preimpregnated material using automated tape laying. The preform of the beams (J-section) is obtained by hot forming of flat laminates. The final curing and bonding to the precured skin (co-bonding) is performed using a direct vacuum bag in an autoclave. A flat development of the vacuum bag is performed, it is traced with a numerical control machine and it is made prior to being placed on the tool. For large surfaces with difficult access the final adjustment is performed with the tool and the part in a vertical position, due to the ergonomic difficulties involved in working on certain areas of same. The invention is applicable to the field of aeronautics.